

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (currently amended): A transgenic mouse, ~~the nucleated cells of which comprise~~ whose genome comprises a transgene encoding NOX 1, wherein the transgene comprises a nucleic acid ~~sequence set forth as SEQ ID NO: 1 or a degenerate variant thereof~~ encoding SEQ ID NO: 2 operatively linked to a CX1 promoter, and wherein the mouse exhibits an increased overgrowth of colonic epithelial cells upon exposure to pathogenic bacteria.

Claim 2 (canceled).

Claim 3 (previously presented): The transgenic mouse of claim 1, wherein the mouse is heterozygous for the transgene.

Claim 4 (previously presented): The transgenic mouse of claim 1, wherein the mouse is homozygous for the transgene.

Claim 5 (canceled).

Claim 6 (previously presented): The mouse of claim 1, wherein the transgene comprises
SEQ ID NO: 1.

Claims 7-11 (canceled).

Claim 12 (previously presented): The transgenic mouse of claim 1, wherein the
transgene comprises a LoxP flox stop cassette.

Claim 13 (previously presented): The transgenic mouse of claim 12, wherein the LoxP
flox stop cassette encodes a marker protein.

Claim 14 (previously presented): The transgenic mouse of claim 13, wherein the marker
protein is green enhanced fluorescent protein.

Claim 15 (currently amended): A method for identifying a therapeutic agent for use in
treating ~~inflammation or colon cancer~~ hyperplasia of colonic epithelial cells, comprising

administering a test compound to the transgenic mouse of claim 1;

exposing the transgenic mouse to a pathogenic bacteria; and

assessing the amount of ~~inflammation, overgrowth of colonic epithelial cells, or both~~
hyperplasia of colonic epithelial cells in the colon of the transgenic mouse;

wherein a decrease in the amount of ~~inflammation, overgrowth~~ hyperplasia of colonic
epithelial cells, ~~or both~~ in the transgenic mouse as compared to a control mouse identifies the

agent as being of use in treating hyperplasia of colonic epithelial cells ~~inflammation or colon~~
~~cancer~~.

Claim 16 (previously presented): The method of claim 15, wherein the transgenic mouse is heterozygous for the transgene.

Claim 17 (previously presented): The method claim of 15, wherein the transgenic mouse is homozygous for the transgene.

Claim 18-25 canceled.

Claim 26 (previously presented): A cell or cell line isolated from the transgenic mouse of claim 1.

Claim 27 (canceled).